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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,561	11/20/2001	Mitsuru Endo	MAT-8201US	1678

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EXAMINER
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VO, HUYEN X

ART UNIT	PAPER NUMBER
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2626

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/989,561

Applicant(s)

ENDO ET AL.

Examiner

Huyen X. Vo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/19/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3-13, 15, 17, 19, 21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-13, 15, 17, 19, 21 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 13, 15, 17, and 19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

3. Claims 13, 15, 17, and 19 are drawn to a "program" *per se* as recited in the preamble (can be interpreted a piece of paper having program instructions recording thereon) and as such is non-statutory subject matter. See MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of

the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5, 9, 13, 15, 17, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Pfister et al. (WO 96/03741, applicant's admitted prior art).

6. Regarding claims 1, 13, and 17, Pfister et al. disclose a method and a computer program product for converting inputted speech to text, comprising:

(a) a step of entering a sentence by speech (*input device 6 in figure 1; also referring to 2<sup>nd</sup> paragraph on page 28*);

(b) a step of recognizing a part of the entered speech (*3<sup>rd</sup> paragraph page 18 and 2<sup>nd</sup> paragraph page 19; recognizing a current “speech segment”*), and determining candidates of words strings as a unit of one to several words from the recognized part of the entered speech (*referring to page 19, N most possible phoneme sequences*

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*within the speech segment, wherein the speech segment can be a single word or a phrase);*

(c) a step of displaying the candidates (*last paragraph on page 21 to end of second paragraphs on page 22*); and

(d) a step of allowing a user to select from the displayed candidates (*last paragraph on page 21 to end of second paragraphs on page 22 and/or referring to pages 24-25*),

wherein a remaining part of the entered speech is recognized by sequentially repeating the candidate determining step (b), the displaying step (c), and the selecting step (d), in a unit of the word string from a beginning of the entered speech (*Subsequent Word Resolution section on page 27; next "speech segment" is recognized after the current "speech segment" as indicated in 3<sup>rd</sup> paragraph on page 18, and the processing steps are repeated*).

7. Regarding claim 5, Pfister et al. disclose an apparatus for converting inputted speech to text, comprising:

an input section for entering a sentence by speech (*input device 6 in figure 1; also referring to 2<sup>nd</sup> paragraph on page 28*);

a speech pre-processing section for extracting a feature amount of the entered speech from said input section (*pages 15-17*);

a word candidate preparing section for preparing a following word candidate from a fixed word-string (*phoneme identification section on pages 15-19*);

a word-string preparing section for preparing word-string candidates as a unit of one to several words based on recognizing a part of the entered speech using the extracted feature amount corresponding to the part of the entered speech and from the word candidate (*phoneme identification section on pages 15-19*);

a display section for displaying the word-string candidates (*page 20, line 1-36*);

an operating section for a user to select one of the word-string candidates being displayed, the selected word-string candidate forming the fixed word-string (*Display and Editing Mode and Phonetic Symbol String Editing sections on pages 20-22*); and

a candidate-preparation instructing section for instructing said word candidate preparing section to prepare the following word candidate from the fixed word-string selected by said operating section (*phoneme identification section on pages 15-19*),

wherein said word-string preparing section sequentially repeats preparation of said word-string candidates for a remaining part of the entered speech using said following word candidate, in a unit of the word-string from a beginning of the entered speech to recognize the remaining part of the entered speech (*Subsequent Word Resolution section on page 27; next "speech segment" is recognized after the current "speech segment" as indicated in 3<sup>rd</sup> paragraph on page 18, and the processing steps are repeated*).

8. Regarding claim 21, Pfister et al. further disclose the method for converting inputted speech to text according to claim 1, wherein said candidate determining step (b) determines said candidates of word-strings on the basis of a language information

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and an acoustic information of the selected word-strings when there are pre-selected word strings (*language models and acoustic models are inherently included in any particular speech recognition system*).

9. Regarding claims 15 and 19, Pfister et al. further disclose that the candidate preparing step (b) further having a process to update the candidate due to an acoustic score (*adaptive feedback section on pages 26-27*).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pfister et al. (WO 96/03741, applicant's admitted prior art) in view of Official Notice.

12. Regarding claim 9, Pfister et al. fail to specifically disclose that the apparatus is included in a cellular telephone. However, examiner takes official notice that cellular telephone having speech recognition capability is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate speech recognition capability in the cellular telephone in order to enable

users to dial telephone numbers by voice without having their eyes off the road while driving.

13. Claims 3, 6-7, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfister et al. (WO 96/03741, applicant's admitted prior art) in view of Abe et al. (US 6173253).

14. Regarding claims 6 and 22, Pfister et al. further disclose speech recognition of longer speech blocks such as phrases and sentences, but fail to specifically disclose that at least one of said candidates of word-strings is a phrase built by an extension process to repeat word linking according to a word-based linkage probability on said candidate determining step (b). However, Abe et al. teach that at least one of said candidates of word-strings is a phrase built by an extension process to repeat word linking according to a word-based linkage probability on said candidate determining step (b) (*col. 7, lines 21-40*).

Since Pfister et al. and Abe et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Pfister et al. by incorporating the teaching of Abe et al. in order to determine the most probable sentence/phrase as a recognition result.

15. Regarding claims 3 and 7, Pfister et al. further disclose that the candidate preparing step (b) further having a process to update the candidate due to an acoustic score (*adaptive feedback section on pages 26-27*).



16. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfister et al. (WO 96/03741, applicant's admitted prior art) in view of Abe et al. (US 6173253), as applied to claims 6-7, respectively, and further in view of Official Notice.

17. Regarding claims 10-11, Pfister et al. fail to specifically disclose that the apparatus is included in a cellular telephone. However, examiner takes official notice that cellular telephone having speech recognition capability is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate speech recognition capability in the cellular telephone in order to enable users to dial telephone numbers by voice without having their eyes off the road while driving.

18. Claims 4, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfister et al. (WO 96/03741, applicant's admitted prior art) in view of Abe et al. (US 6173253), as applied to claims 3 and 7, respectively, and further in view of Huang et al. (US 5829000).

19. Regarding claims 4 and 8, the modified Pfister et al. fail disclose that the extension process is ended by reaching of the number of phrase candidates subjected to said extension process by a predetermined number as counted from a top rank in a language score. However, Huang et al. teach a re-sizeable correction that enables the

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user to set a limit on the number of candidate words/phrases to be displayed on the display for the user to select (*referring to col. 7-8*).

Since the modified Pfister et al. and Huang et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Pfister et al. by incorporating the teaching of Huang et al. in order to provide rapid correction of misrecognized words/phrases.

20. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pfister et al. (WO 96/03741, applicant's admitted prior art) in view of Abe et al. (US 6173253), further in view of Huang et al. (US 5829000), as applied to claim 8, and further in view of Official Notice.

21. Regarding claim 12, Pfister et al. fail to specifically disclose that the apparatus is included in a cellular telephone. However, examiner takes official notice that cellular telephone having speech recognition capability is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate speech recognition capability in the cellular telephone in order to enable users to dial telephone numbers by voice without having their eyes off the road while driving.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HXV

7/21/2006

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A handwritten signature in black ink, appearing to be 'Huyen X. Vo', is written over the '\*\*\*' text. The signature is stylized and cursive.